

## Abstract of the Disclosure

A compact matching network couples an RF power supply to an RF antenna in a plasma generator. The simple and compact impedance matching network matches the plasma load to the impedance of a coaxial transmission line and the output impedance of an RF amplifier at radio frequencies. The matching network is formed of a resonantly tuned circuit formed of a variable capacitor and an inductor in a series resonance configuration, and a ferrite core transformer coupled to the resonantly tuned circuit. This matching network is compact enough to fit in existing compact focused ion beam systems.